

## ABSTRACT OF THE DISCLOSURE

A radio transmitter is adapted to automatically adjust aerial impedance for a selected  
5 radio frequency. The radio transmitter includes a tunable radio frequency signal generator that  
has an impedance and is adapted to generate a radio frequency signal in the range of  
approximately 510 kilohertz to approximately 1705 kilohertz. The radio transmitter is also  
adapted to receive less than or equal to approximately 100 milliwatts of total input power. An  
aerial coupled to the tunable radio frequency signal generator and is adapted to transmit the radio  
frequency signal. The aerial has an output voltage, an aerial impedance and a length of less than  
10 or equal to approximately three meters. An adjustable inductor coupled to the aerial. A sampler  
coupled to the aerial and is adapted to measure the aerial output voltage. A processing unit is  
coupled to the sampler and to the adjustable inductor. The processing unit responds to the  
measured aerial output voltage by adjusting the adjustable inductor until the aerial impedance is  
15 approximately matched to the radio frequency signal generator impedance.